2008 Carl Moyer Program Guideline Revisions

Discussion Issues

Carl Moyer Program Workshops

July 9 – Sacramento

July 12 – El Monte

July 18 – Fresno

The following information has been developed by the Air Resources Board (ARB) staff to initiate discussion for potential future modifications to the Carl Moyer Program guidelines. This information only represents draft concepts introduced by staff and/or stakeholders and will be further evaluated and revised based upon stakeholder input. Proposed guideline revisions are scheduled to be considered at the February 2008 Board meeting.

General Non-Source Category Specific Changes Under Consideration

Potential Streamlining/Simplifying Changes:

- Revise Guidelines Less Frequently: ARB has updated the guidelines about every two years since the inception of the Moyer Program. Stakeholders have expressed concerns about changes being too frequent. Staff is considering less frequent future revisions, every three to four years. Program advisories would be used between guideline revisions to reflect changes such as new regulations affecting Moyer eligibility.

- Simplify Eligibility Determinations for Source Categories Covered by Fleet Rules: Some stakeholders have commented that the eligibility charts ("green charts") used to determine whether engines subject to fleet rules qualify for Moyer funding are too confusing. Some believe that eligibility determination for these engines should be simplified by not requiring the funding applicant demonstrate early rule compliance for the entire fleet. Staff will evaluate whether the criteria for determining funding eligibility for engines covered by fleet rules can be simplified, while ensuring reductions remain surplus to regulations.

  Issues

  - Staff is concerned that providing funding for covered engines without tying the funds to early rule implementation could result in the Carl Moyer Program paying for compliance.

- Streamline Guideline Document: Consolidate several guideline chapters to shorten length and reduce redundancy. Change would not eliminate any eligible project categories. Examples:
  - Moving airport ground support equipment project criteria to Large Spark-Ignition Off-Road Equipment and Compression-Ignition Off-Road Equipment chapters and eliminating Airport Ground Support Equipment chapter.
  - Moving idling and transportation refrigeration unit project criteria to On-Road Heavy-Duty Vehicles chapter and eliminating the Reducing Idling From Heavy-Duty Vehicles and Transportation Refrigeration Units chapters.
  - Moving zero-emission project criteria to the appropriate source category chapters and eliminating Zero-Emission Technologies chapter.

Potential Project Eligibility Criteria Changes:

- Baseline Project Costs: To simplify the project application process and create an incentive to reduce project costs, staff is evaluating whether to set baseline cost as a percent of total project cost rather than as a typical rebuild/new purchase dollar value. These percentages would be based upon data from years one through six of the Carl Moyer Program. *(See source category write ups for more details.)*

- Retrofit Requirements: In the current guidelines, retrofit requirements differ for on-road heavy-duty, fleet modernization, and off-road compression ignition categories.

Staff is considering aligning retrofit requirements for these categories to match the current on-road heavy-duty requirements.

Staff will also clarify criteria requiring installation of the highest level available ARB verified retrofit to define the term "available." This change is intended to address implementation challenges when a new device has been verified, but may not be available for full scale production.

- Minimum Project Life: ARB staff will evaluate whether the minimum project life of three years should be modified. In 2005, ARB reduced the minimum project life for agricultural pump repower projects to one year. Some stakeholders recommend reducing the minimum project life to one year for all project categories in order to make more projects eligible.
  Issues
  - Staff is concerned that shorter project life may lead to funding projects that would have happened in absence of incentives (i.e., paying for compliance).
  - Staff is concerned that shorter project life would reduce overall Moyer Program emission benefits, impacting program's role as State Implementation Plan (SIP) attainment strategy.

- Goods Movement Issues: Changes may be made to the guidelines to reflect availability of $1 billion in incentive funding through the goods movement emission reduction bond. Staff will need to evaluate how the Carl Moyer Program will work with the new goods movement incentive program under proposition 1B.

- Population Exposure: Should a measure of population exposure to pollution be factored into the equation for calculating project cost-effectiveness?
  Issues
  - Is there a straight forward way to factor in population exposure, or would this make calculating cost-effectiveness too complicated to practically implement? Stakeholder suggestions are needed.

Other changes:

- Cost-Effectiveness Cap: Staff will update the cost-effectiveness cap of $14,300 per weighted ton of emissions reduced to reflect changes in the consumer price index since the last revision to the guidelines.

- Revise Discount Rate Used to Calculate Annualized Project Cost: The discount rate is used to calculate capital recovery factors as part of cost-effectiveness calculations. It is set at four percent based on average annual yield of U.S. Treasury securities at time of last revision to guidelines. Staff will review current yields to determine whether discount rate should be revised.

- Emission Factor Updates: Staff will update emission factor tables to reflect ARB's latest emission inventory.

Program Administration Chapter Potential Updates

As part of the 2005 Carl Moyer Program Guideline revisions, ARB has convened a Program Administration Work Group to solicit input from air districts and other interested stakeholders. The group focuses on streamlining and simplifying program administrative requirements while maintaining the program's effectiveness and integrity. A list of process improvement issues from the California Air Pollution Control Officers Association (CAPCOA), a 2006 Department of Finance (DoF) program evaluation, and a 2007 Bureau of State Audit (BSA) report provide starting points for the work group's discussion. To date, a subset of the work group consisting of ARB and air district staff has discussed the following concepts:

- Cumulative Progress Tracking: Cumulative progress tracking would compare the total funds spent by the expenditure deadline, regardless of the funding year, with the amount required to be expended at that deadline. This mechanism provides districts flexibility to take credit for funds expended early while ensuring anticipated emission reductions are cumulatively achieved by the required deadline.

- Two-Tiered Approach for District Fund Application and Reporting Requirements: ARB is evaluating a risk-based approach to district application, fund receipt and reporting requirements, such that districts that require less oversight (based on historical performance) could be subject to reduced administrative requirements.
  Issues
  - Should the bar be set low to provide moderate relief to all districts that consistently obligate and spend their funds on time, or should a high standard be set for a few districts to run their programs with significant autonomy?

- Funding Year "Close Out": To minimize duplicative reporting, ARB should "close out" each new funding year once a district has submitted all required reports and demonstrated full expenditure of that year's funds. For years in which ARB has already received all required completed reports, the APCO, CFO, and Moyer program manager could sign (certify) close-out forms.

- Report Streamlining: The work group has discussed mechanisms to streamline reporting requirements for the Policies and Procedures Manual, initial report, status report, and annual report.

- Allocation of Funds to Air Districts: The working group is evaluating ways to streamline the process by which air districts receive their initial and subsequent funding allocations from ARB.
  Issues
  - The DoF has indicated that, at a minimum, air districts must demonstrate a need for project funds before receiving program funding. Given this DoF concern, what are the options for streamlining how districts receive their annual funding allocation from ARB?

- Annual and Final Reports: The guidelines should provide additional time for districts to submit their annual and final reports to ARB since June 30th coincides with the close of fiscal year (when some data is just being received).

- AB 923/$2 DMV Moyer Funds: The working group discussed mechanisms for reporting on Carl Moyer Program projects and for ensuring these funds are spent expeditiously.

- Fiscal Issues: The DoF 2006 report on the Carl Moyer Program recommends that the program guidelines include general costs and principles for earned interest, indirect costs, outreach/admin funds, and travel and per diem rates. Districts' Policies and Procedures manuals should reference the document which governs the districts' practices for these items (or define their calculation methodologies and/or minimum requirements).

These ideas represent draft concepts and shall be discussed, evaluated, and revised further based on subsequent working group meetings, Carl Moyer Program workshops, and stakeholder comments. Subsequent work group meetings will focus on the following topic areas:

- Policies and procedures for ARB audits of air districts
- Protocols for recapture and reallocation of unexpended air district funds
- Procedures and protocols for identifying a district "At-Risk" and the consequences of the designation
- Mechanisms to simplify the program for project participants while maintaining program integrity, including:
    - minimum application requirements
    - minimum contract requirements
    - project pre- and post-inspection requirements
    - project annual reporting
    - minimum requirements for district audit of projects

On-Road Heavy Duty Chapter Potential Updates

Reflash: Due to the potential for extreme emissions from both reflashed and unreflashed engines, reflashable engines should not be used as the replacement engine in a repower. To reduce emission from the remaining 25-30% of unreflashed engines, should fleets that apply for funding be required to reflash all eligible trucks in their fleet as a condition of funding?

Issues

- Allow only MY 1999 or newer engines to be the replacement engine for repowers or just don't allow reflashable engines.
- Limit the air districts burden to enforce the requirement to have all reflashable trucks in fleet reflashed. Allow fleet owner to sign a statement that all reflashable trucks have been reflashed and allow enforcement division to looks for these reflashed trucks during routine shop or yard inspections.

Mechanical Engine Repower: Clarify project life and requirement that replaced engines has to stay in truck for life of the project

Remanufactured Engines: Provide documentation that remanufactured engine's serial number matches an EO and provide a copy of that EO with application.

MY 2010 Engines: Provide clarification to all stakeholders what the process will be when the 2010 0.2 g NOx engines come out.

Issues

- What determines the MY used for a project (signing of contract, issuing of purchase order, or obligating funds)?

Emission Factor Update: Update emission factors and conversion factors to be constant with values used in EMFAC2007.

Idle Reduction: Due to idling regulation that restrict idling for heavy-duty trucks, only zero emission technologies will be eligible for funding such as battery powered and/or thermal energy storage systems. Potentially, truck on-board equipment for use with on-shore power may be eligible.

Auxiliary Power Units: Propose to remove cost caps for APU, hour-meter, other related equipment, and device installation so that projects are judged on cost effectiveness alone.

On-Road Fleet Modernization (Truck Replacement) Chapter Potential Updates

- Program Streamlining: Since the inclusion of the on-road fleet modernization project category into the 2005 Carl Moyer Guidelines, only two districts are currently implementing fleet modernization programs and another district has submitted their proposed fleet modernization program for ARB's review. ARB staff is evaluating opportunities to simplify and streamline fleet modernization implementation requirements and project criteria to encourage more district participation. Issues revolve around how best to simplify the program while continuing to ensure real, surplus, quantifiable, and enforceable emission reductions.

  Issues

  - How could program implementation requirements be modified to encourage more districts to consider administering the fleet modernization program?
  - Should program implementation requirements differ for small/rural districts as compared to large districts?
  - Should ARB have a more direct role in administering the program, particularly for small districts?
  - If the fleet modernization program criteria are streamlined, what administrative and/or enforcement tools need to be considered to safeguard against abuses?

- Program Expansion: ARB is evaluating whether it is appropriate to expand the set of eligible vehicles within the fleet modernization program. As adopted, the program was designed for the replacement of the oldest and dirtiest trucks with newer used trucks. It is controlled to ensure that the program funds are paying for accelerated turnover. If the program were paying for normal turnover, then there would be no emissions benefits from the funding and taxpayer funds are wasted. Issues revolve around how best to expand the program while continuing to ensure real, surplus, quantifiable, and enforceable emission reductions.

  Issues

  - Some stakeholders have suggested that the program be revised to simply focus on replacing the oldest vehicles instead of safeguarding against paying for normal fleet turnover. This proposal cannot be accommodated within the existing framework of the Carl Moyer Program since one of the basic tenets of the program is to provide incentive funding only for projects that result in surplus emissions. Incentive funds cannot be used to pay for normal fleet turnover or for compliance with regulations. ARB staff is seeking comments on how to best accomplish the objectives of this proposal while still adhering to the core program requirement of cost-effective surplus emissions reductions.
  - Instead of a static eligibility requirement requiring the old vehicle to be model 1990 or older, should the Guidelines allow the eligible vehicle model years to "auto-adjust" based on certain pre-determined criteria?
  - If, as a result of streamlining and broadening the eligibility criteria (that presumably could inevitably pay for some "anyways" vehicle purchases), should the fleet modernization program establish a cap on the grant amount

for the purchase of the new/newer vehicle, instead of paying a percentage of the vehicle's price as it is now currently designed?

- If the applicant elects to purchase a brand new vehicle, should the incentive amount be reduced, or capped at an amount that is less than currently allowed?
- What incentive amount would ensure significant program participation while providing real, enforceable, and cost-effective emission reductions?
- Should the project life be extended if newer vehicles become eligible for replacement?
- Should project life continue to be different for targeted verses non-targeted vocations?
- Should truck dealers become a more integrated component of any revised tiered transaction process (e.g., the triangular trade concept proposed by the California Trucking Association)? Dealers could play more active roles in managing vehicle transactions between vehicle owners and scrapping old vehicles, etc.

Light-Duty Vehicles Chapter Potential Updates

- Emission Modeling and Emission Tables Updated: Emission reductions, emission rates, and vehicle miles traveled tables for 2008 and 2009 are proposed for updating using the latest approved version of the on-road emissions model: EMFAC 2007, V2.3, (Nov.2006).

- Redefine Calculation of Replacement Vehicle Emissions: For voluntary accelerated vehicle retirement (VAVR) projects, the retired vehicle is assumed to be replaced by a vehicle with the average emissions of the fleet. Currently, fleet average emissions include all gasoline-powered, light-duty passenger vehicles and light duty trucks from model year 1965 through the year of interest. Staff proposes to calculate fleet average emissions from model years 1990 through the year of interest, i.e. 2008 and 2009, so that emissions are more representative of those expected from typical replacement vehicles.

  NOTE: Changes to the calculation of fleet-wide average emissions are proposed for immediate implementation after this workshop. The default emission reduction tables for VAVR projects will consequently be updated as part of a Technical Advisory.

- VAVR High Emitting Vehicle Year 2 and 3 Emissions Calculations Revised: To simplify emission reduction calculations for years two and three of the three year project life for high emitting vehicles retired through VAVR projects, FTP driving cycle emission rates are proposed to be calculated from the Smog Check pass/fail pollutant concentrations for the model year and vehicle class.

The ARB is organizing a VAVR task force to openly share technical information about VAVR programs. The proposed VAVR task force would be co-chaired by the ARB and Bureau of Automotive Repair and consist of representatives from the Clean Air Dialogue, the California Air Pollution Control Officers Association, and air districts administering or seeking to administer VAVR programs. The intent of the task force is to assist contributors in their efforts to develop robust and transparent vehicle scrappage programs which continue to generate real emission reductions.

Off-Road Compression Ignition (CI) Chapter Potential Updates

- Tier 1 Repowers: Staff is considering whether to make Tier 1 repowers ineligible for funding except for equipment that is exempted from the proposed regulation for in-use off-road diesel vehicles (off-road rule) or fleets that are exempted from the turnover requirements of the off-road rule. For the exempted equipment and fleets exempt from the turnover requirements of the off-road rule, staff is proposing to remove the $6,000/weighted ton cost effectiveness cap for Tier 1 repowers.

  Issues

  - Tier 1 engines are exempt from the turnover requirement of the proposed regulation until March 1, 2013, so technically any Tier 1 repowers done prior to March 1, 2010 would be surplus to the regulation. However, Moyer funding for Tier 1 repowers would only delay the turnover of this equipment to a cleaner engine Tier.
  - Tier 1 repowers done prior to March 1, 2009 are given early repower credits in the proposed regulation allowing for fleets to postpone the turnover of their fleets to cleaner engines.

- Retrofit Requirement: Staff is considering changing the retrofit requirements to align with those for on-road heavy-duty vehicles in the current guidelines. Please refer to the "Retrofit Requirements" of the **General Non-Source Category Specific Changes Under Consideration** section of this document for the suggested changes.

  Issues

  - If the addition of the retrofit makes the project not cost effective, the retrofit is still required and the applicant is only eligible for reimbursement up to the cost effectiveness cap. This is different from the current guidelines, which would allow funding of the repower project without the addition of the retrofit.

- Usage Activity: The 2005 Guidelines allow for districts to use either hours of operation or fuel usage for activity in cost-effectiveness calculations. Staff has found it difficult to verify the documentation that has been used to substantiate historical and reported project fuel usage. Staff is considering whether to clarify that fuel usage should only be allowed if three years of historical fuel usage documentation can be provided. In addition, staff is considering specifying what documentation is allowable (such as fuel logs, purchase receipts, or ledger entries) and that such documentation apply to the specific equipment being funded.

- Baseline Cost: To simplify the program for districts and applicants, staff is evaluating whether to set baseline cost as a percent of total costs rather than as a typical rebuild dollar value. For off-road CI projects, staff is considering allowing Moyer to pay up to the following project costs:
  - Tier 1 Repower – 75 percent
  - Tier 2 Repower – 80 percent
  - Tier 3 Repower – 85 percent

- Emission Factors: Staff will update the off-road CI emission factors and load factors to be consistent with the latest version on ARB's OFF-ROAD Model.

- Other Updates:
    - Staff will incorporate the eligibility of cargo handling equipment as it relates to the Cargo Handling Equipment Regulation at Ports and Intermodal Rail Yards.
    - Staff will incorporate the eligibility of off-road equipment as it relates to the proposed off-road rule once it is adopted by the Board.
    - Staff will update the chapter to reflect the ineligibility of portable engines since the portable engine air toxic control measure requires controlled engines by January 1, 2010.

Off-Road Fleet Modernization (Equipment Replacement) Concepts

As part of the Carl Moyer Guidelines revision, the ARB staff is evaluating the feasibility of an off-road fleet modernization (equipment replacement) program. Fleet modernization is defined as the replacement of dirty, old equipment with newer, cleaner equipment. This program will be limited to equipment replacements as opposed to fleet expansion. Off-road operators would have the opportunity to replace existing equipment with newer equipment, provided the emission reductions are surplus and cost-effective. ARB is moderating workgroup meetings to discuss the following:

- What types of off-road equipment should qualify?
- How should ARB staff prioritize off-road categories for this program? Because the off-road category covers a broad range of applications, it is necessary to narrow the focus. During the workgroup discussions, participants have discussed prioritizing based on the lack of available Tier 3 repowers, viability of projects based on cost-effectiveness limits, and the interest level from industry.

At future workgroups, ARB staff will consult with the participants to determine the priorities and requirements for the program. Outstanding issues include:

- What criteria can be established to verify that old equipment is functional and being used in California?
- How can ARB staff determine whether equipment replacement would have occurred if Moyer funding had not been available?
- How will the emission reductions be calculated if the replacement equipment is used more than the old equipment?
- As project life is based on the remaining useful life of the old equipment, how can the remaining life of each piece of off-road equipment be determined?

Data, such as equipment turnover rate and annual activity, is necessary to ensure the emission reductions achieved through this program will be real, surplus, quantifiable, and enforceable. Additional suggestions, concerns, or criteria may be added as the discussions continue at the workgroup meetings.

Large Spark Ignition (LSI) Chapter Potential Updates

- LSI Fleet Rule: Staff will incorporate eligibility criteria for LSI equipment exempt from the in-use LSI regulation adopted on May 12, 2007. Fleets of four or more forklifts, sweeper/scrubbers, industrial tow tractors, and airport ground support equipment (GSE) are subject to the rule. Because of the aggressive regulatory requirements, surplus reductions are much more likely to be found in exempt equipment or fleets of three or less pieces of equipment or agricultural crop preparation fleets that were given an alternative compliance option.

- Retrofits: Staff will clarify the parameters for LSI retrofit projects. These include:
  - The maximum project life would be five years (default set to three years).
  - The eligible age of equipment to be retrofitted is 1990 model year and newer.
  - Retrofits on equipment used as little as 200 hours annually may be cost-effective.

- Purchase:
  - Incremental cost of electric forklifts, industrial tow tractors in GSE, sweepers, aerial lifts, lawn and turf equipment would continue to be eligible, where surplus to the in-use LSI regulation.
  - Because the difference in the purchasing new low emission standard forklifts and new electric forklifts is small, staff is proposing that the more stringent cost-effectiveness caps for electric forklift projects will be removed.

- Baseline Cost: Staff is evaluating whether to set baseline cost as a percent of total costs rather than as a typical rebuild dollar value. Under consideration would be to allow Moyer to pay up to 30 percent of a new electric purchase.

- Emission Factors: Staff will update the off-road LSI emission factors and load factors to be consistent with the latest version on ARB's OFF-ROAD Model.

Agricultural Sources Chapter Potential Updates

- Diesel Engine Repower Projects: The project criteria will be updated to reflect Board adoption of the Stationary Diesel In-Use Agricultural Engines ATCM. In adopting the regulation, the Board directed staff to allow a one year project life for Moyer-funded agricultural engine repower projects. Staff is considering to implement as follows:
  - Repower projects for uncontrolled engines in the 100-750 hp range would use:
    a three year project life through December 31, 2007
    a two year project life through December 31, 2008
    a one year project life through December 31, 2009
  - Repower projects for uncontrolled engines less than 100 hp or greater than 750 hp would use:
    a three year project life through December 31, 2008
    a two year project life through December 31, 2009
    a one year project life through December 31, 2010
  - Repower projects for engines not subject to the stationary diesel in-use agricultural engine ATCM must continue to use at least a three year project life.

- Spark-ignited Engine Projects: The 2005 Guidelines allowed funding of non-certified spark-ignited engines on a case-by-case basis until January 1, 2008. Staff is considering whether to allow continued funding of non-certified spark-ignited engines on a case-by-case basis, with no sunset date.

- Electric Motor Projects: Staff will include eligibility criteria for reduced voltage starting technology and variable frequency drives as part of electric motor purchases. These criteria are currently in use by local air districts for electric motor projects.
  - Reduced voltage starting ("soft start") technology reduces the voltage drop along a power line during motor start-up. Reduced voltage starting technology is currently eligible for Moyer funding if required by the electric service provider.
  - Variable frequency devices are used to change the pump horsepower demand and resulting output. Variable frequency drives are currently eligible for Moyer funding if the applicant provides justification for adjustable water needs.

- Non-Engine Projects: Staff is considering allowing non-engine agricultural source projects on a case-by-case pilot basis.
  Issues
  - What types of projects should be eligible for pilot funding (livestock operations, fugitive dust suppression, above ground storage tanks)?
  - What methodologies should be required to demonstrate emission reductions?
  - What data should be required for project evaluation and to help develop future funding criteria?

- Baseline Cost: To simplify the program for districts and applicants, staff is evaluating whether to set baseline cost as a percent of total costs rather than as a typical rebuild dollar value. For agricultural engine/motor projects, staff is considering allowing Moyer to pay up to the following project costs:
    - New Purchase – 20 percent (electric motor only)
    - Tier 3 Repower – 85 percent

- Emission Factors: Staff will update the agricultural engine emission factors to be consistent with the latest version on ARB's OFF-ROAD Model.

Locomotive Chapter Potential Updates

- Retrofits: ARB is initiating a process to verify retrofit devices for use on locomotives. Staff therefore plans to include criteria for the purchase and installation of ARB- or U.S. EPA-verified locomotive retrofit devices.

- Baseline Cost: Staff is evaluating whether to set baseline cost as a percent of total costs rather than as a typical rebuild dollar value. For locomotive projects, staff is considering allowing Moyer to pay up to the following project costs:
    - Tier 0 Repower or Certified Rebuild Kit – 75 percent
    - Tier 1 Repower or Certified Rebuild Kit – 80 percent
    - Tier 2 Repower or Certified Rebuild Kit – 85 percent

  Projects would have to continue to be surplus to federal locomotive rebuild requirements.

- Emission Factors: ARB plans to update locomotive emission factors to be consistent with those in the technical support documents in U.S. EPA's 2007 proposed rule for new and remanufactured locomotives.

Marine Vessel Chapter Potential Updates

- ARB Harbor Craft Rule: If the ARB harbor craft rule is adopted by the Board, the guideline update shall clarify under what circumstances marine projects are surplus to the rule. As currently structured, the draft harbor craft rule requires emission reductions from tugs, ferries, tow boats, and excursion vessels only. If adopted, the rule could significantly limit funding opportunities for these source categories. The rule's reporting requirements for crew and supply boats, work boats, pilot boats, and fishing vessels would not impact these vessels' eligibility for Carl Moyer Program funding.

- Require Hours-Based Activity: The draft ARB Harbor Craft Rule compliance dates are based upon vessel hours of operation. Moyer program staff is therefore evaluating whether engine activity for marine vessel projects be based solely upon hours rather than fuel. Hours-based activity is also easier to verify (assuming an hour meter is used) and can reduce potential errors regarding fuel usage per engine.

- New Engine Requirements: Staff is evaluating whether to require that all marine repowers use Tier 2 or cleaner engines where feasible, since U.S. EPA Tier 2 marine engine standards have been implemented for all horsepower categories as of 2007. Should U.S. EPA adopt Tier 3 marine engine standards as expected in 2008, these Tier 3 engines would be required for repowers by the applicable new engine standard implementation date.

- Hybrid Marine Vessels: ARB may begin certifying/verifying emissions from new hybrid-electric harbor craft. If emission benefits can be accurately quantified through this process, staff will consider adding program criteria for new hybrid-electric harbor craft.

- Engine Remanufacture Kits: Staff is proposing to clarify that engine remanufacture kits not certified for PM (such as kits certified to meet IMO NOx standards) are ineligible for funding. Such kits could be eligible for funding on a case-by-case basis if emission testing is conducted on the baseline engine and annually on the newly remanufactured engine for the project life to ensure no increase in PM emissions.

- Electronic Monitoring Units (EMU): Staff will consider comments regarding the feasibility of the EMU requirement for marine projects due to challenges in finding qualified EMU vendors and other implementation issues.

- Baseline Cost: Staff is evaluating whether to set baseline cost as a percent of total costs rather than as a typical rebuild dollar value. For marine projects, staff is considering allowing Moyer to pay up to 80 percent and 85 percent of Tier 2 and Tier 3 repowers, respectively.

- Emission Factors: The new guidelines shall include updated marine vessel emission and load factors to be consistent with those for the ARB Harbor Craft Rule.